

AMENDMENTS TO THE CLAIMS

1. (Canceled)

2. (Canceled)

3. (Canceled)

4. (Canceled)

5. (Canceled)

6. (Canceled)

7. (Canceled)

8. (Canceled)

9. (Canceled)

10. (Canceled)

11. (Canceled)

12. (Canceled)

13. (Canceled)

14. (Canceled)

15. (Canceled)

16. (Canceled)

17. (Canceled)

18. (Canceled)

19. (Amended) A process for purifying contaminated liquid comprising:

rotating at least a pair of first and second shells, the first and second shell having common longitudinal axes of rotation, each shell having an input and an output end and an inner surface facing the axis of rotation and an outer surface facing away from the axis of rotation;

injecting contaminated liquid at the input end of the first shell; the contaminated liquid boiling along the inner surface of the first shell to create a purified vapor within the first shell and a remaining liquid containing contaminants on the inner surface of the first shell;

wherein the rotation of the concentric shells is at a angular velocity sufficient for any liquid on the inner surface to form a film along the inner surface due to g forces on the liquid generated by the rotation of the shells;

applying a pressure to the purified vapor to raise the pressure of the purified vapor and direct the vapor to the input end of the second shell, the purified vapor condensing as purified liquid along the outer surface of the first shell, centrifugal force projecting the purified liquid against the inner surface of the second shell; and

collecting the purified liquid from the output end of the second shell and collecting the remaining liquid from the output end of the first shell;
and

wherein heat for vaporizing the injected, contaminated liquid along the inner surface of the first shell results from the heat of condensation on the outer surface of the first shell, and wherein the heat transfer from vaporization cools the shell so that the vapor condenses on the outer surface of the shell.

20. (Canceled)

21. (Previously presented) The process of claim 19 wherein first and second shells are under vacuum.

22. (Previously presented) A process for purifying contaminated liquid comprising:

applying a vacuum to at least first and second concentric shells, each shell having the same longitudinal axis as the other shell, each shell having an inner surface facing its longitudinal axis and an outer surface

facing away from its longitudinal axis, each shell having an input end and an output end;

injecting contaminated liquid into the input end of the first shell;

rotating the at least two shells about an axis of rotation that is along the longitudinal axes of the shells, the angular velocity of the shells being sufficient to cause the injected contaminated liquid to form a film on the inner surface of the first shell, the vacuum causing the contaminated liquid to boil into a vapor;

compressing the vapor and directing the vapor out of the output end of the first shell into an input end of the second shell;

the vapor condensing on the outer surface of the first shell as a purified liquid;

directing the purified liquid to the inner surface of the second shell;

and

collecting the purified liquid from the inner surface of the second shell; and

wherein heat for vaporizing the contaminated liquid along the inner surface of at least one of the shells from the heat of condensation on the outer surface of the first shell, and wherein the heat transfer from vaporization cools at least one of the shells so that the vapor condenses on the outer surface of that shell.